

WHAT IS CLAIMED IS:

1. An electrode for fuel cells comprising an electrode structure which is electrically conductive and gas permeable, and a catalyst directly carried on the electrode structure.

2. An electrode as set forth in Claim 1, wherein the electrode structure is formed of electrically conductive fiber filaments.

3. An electrode as set forth in Claim 1, wherein the electrode structure is formed of electrically conductive fiber filaments having electrically conductive particles dispersed thereon.

4. An electrode as set forth in Claim 2, wherein the electrically conductive fiber element is an active carbon fiber filament.

5. An electrode as set forth in Claim 1, wherein the electrode structure is formed of one of a sinter of electrically conductive particles and an electrically conductive porous material.

6. A method of producing an electrode for fuel cells comprising the steps of:  
establishing a water repellent finished state of an electrode structure which is electrically conductive and gas permeable;

carrying a catalyst on the water repellent finished electrode structure; and  
applying ion exchange resin onto the catalyst carrying electrode structure.

7. A method as set forth in Claim 6, wherein the electrode structure is formed of electrically conductive fiber filaments having electrically conductive particles dispersed thereon.

8. A solid-state high molecular weight electrolyte type fuel cell comprising:  
a pair of electrodes, each of which is electrically conductive and gas permeable, and has a catalyst directly carried thereon;

a solid-state high molecular weight electrolyte membrane sandwiched between the pair of the electrodes to constitute a membrane electrode assembly; and

a pair of separators sandwiching therebetween the membrane electrode assembly, each of the separators being in contact with the corresponding electrode to define a gas passage therebetween.

9. An electrode as set forth in Claim 3, wherein the electrically conductive fiber elements are active carbon fiber filaments.

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